

**What is claimed is:**

1. A method for processing image data in an interactive media player, the method comprising:

receiving a plurality of image sources from at least one of  
5 an interactive recording medium and external server;

converting a bit depth of at least a first image source to another bit depth so that the first image source has same bit depth as a second image source.

10 2. The method as set forth in claim 1, wherein converting the bit depth comprises:

increasing the bit depth to match a first value.

3. The method of claim 2, wherein the first value is  
15 approximately equal to a highest bit depth value chosen from among respective bit depths associated with each of the plurality of image sources.

4. The method as set forth in claim 2, wherein  
20 converting the bit depth comprises:

repeating a unit pixel value a predetermined number of times to increase the bit depth.

5. The method as set forth in claim 2, wherein  
25 converting the bit depth comprises:

repeating a color value a predetermined number of times to increase the bit depth.

6. The method as set forth in claim 2, wherein the bit depth is increased within a range of approximately  $2^m$  to  $2^n$ , where  $n > m \geq 0$ .

7. The method as set forth in claim 2, wherein the bit depth is increased by discarding at least one low-order bit of image data of the first image source.

8. The method of claim 7, wherein the low-order bit is discarded after at least a unit pixel value is repeated.

9. The method of claim 7, wherein the low-order bit is discarded after at least a color value is repeated.

10. The method as set forth in claim 1, further comprising:

reducing the bit depth of the first image source to a target bit-conversion value, if the bit depth of the first image source is greater than a target value.

11. A method for processing image data in an interactive media player, the method comprising:

receiving a plurality of image sources, each image source associated with a respective bit depths;

comparing at least one of the respective bit depths with a predetermined reference bit-depth; and

5        converting the respective bit depth to another bit depth, if the respective bit depths is different from the predetermined reference bit-depth.

12.    The method as set forth in claim 11, wherein  
10       converting the respective bit depth comprises:

         increasing the bit depth to match a first value.

13.    The method of claim 12, wherein the first value is approximately equal to the predetermined reference bit-depth.

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14.    The method as set forth in claim 12, wherein converting the respective bit depth comprises:

         repeating a unit pixel value a predetermined number of times to increase the bit depth.

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15.    The method as set forth in claim 12, wherein converting the bit depth comprises:

         repeating a color value a predetermined number of times to increase the bit depth.

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16. The method as set forth in claim 12, wherein the bit depth is increased within a range of approximately  $2^m$  to  $2^n$ , where  $n > m \geq 0$ .

5 17. The method as set forth in claim 12, wherein the bit depth is increased by discarding at least one low-order bit in image data of the respective image source.

18. The method of claim 17, wherein the low-order bit is  
10 discarded after at least one unit pixel value is repeated.

19. The method of claim 17, wherein the low-order bit is discarded after at least one color value is repeated.

15 20. The method as set forth in claim 11, further comprising:

reducing the respective bit depth to a target bit-conversion value, if the respective bit depth is greater than the target bit-conversion value.

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21. An interactive media player system comprising:

a storage unit for storing a plurality of image sources read from a recording medium, each image source having a respective bit depth;

25 a decoder for decoding the plurality of image sources,

confirming the respective bit depths of the image sources to determine whether or not the respective bit depths are to be converted to another bit depth; and

a converter for converting at least one of the respective 5 bit depths into another bit depth.

22. The system as set forth in claim 21 further comprising:

a mixer for mixing video data reproduced from the 10 interactive recording medium and image data with a converted bit depth.

23. The system as set forth in claim 21, wherein the converter converts at least one of the respective bit depths to 15 another bit depth when at least a first image source stored in the storage unit has a different bit depths than a second image source.

24. The system as set forth in claim 21, wherein the 20 converter converts at least one of the respective bit depths to another bit depth when at least a first image source stored in the storage unit has a different bit depths than a reference bit depth.

25. The system as set forth in claim 21, wherein the

converter increases at least one of the respective bit depths by repeating a unit pixel value.

26. The system as set forth in claim 21, wherein the  
5 converter increases at least one of the respective bit depths by repeating one color value of image data.

27. The system as set forth in claim 26, wherein the bit  
depth is increased in a range of approximately  $2^m$  to  $2^n$ .

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28. The system as set forth in claim 26, wherein  $n > m \geq$   
0.

29. The system as set forth in claim 21, wherein the  
15 converter increases at least one of the respective bit depths by discarding at least a low-order bit of the image data.

30. The system as set forth in claim 21, wherein the  
converter reduces at least one of the respective bit depths by  
20 discarding at least a low-order bit of the image data.